



9.17 TOWN OF POUGHKEEPSIE

This section presents the jurisdictional annex for the Town of Poughkeepsie.

9.17.1 Hazard Mitigation Plan Point of Contact

The following individuals have been identified as the hazard mitigation plan's primary and alternate points of contact.

Primary Point of Contact	Alternate Point of Contact
Thomas Wiacek, Deputy Building Inspector, NFIP FPA (845) 485-3655 twiacek@townofpoughkeepsie-ny.gov	Neil A. Wilson, Director of Municipal Development 845-485-3657 nwilson@townofpoughkeepsie-ny.gov

9.17.2 Municipal Profile

The Town of Poughkeepsie is located on the eastern shore of the Hudson River in Dutchess County, midway between Albany and New York City. The Town surrounds the City of Poughkeepsie on all sides except the west, where it borders the Hudson River and Ulster County. It is a primarily suburban community, but has a more mixed-use character in the areas that surround the City of Poughkeepsie. Approximately 44,000 residents live within the Town's nearly 20,000 acres or 31 square miles, not including the Town's portion of the Village of Wappinger Falls. Other bordering municipalities are Hyde Park to the north, Pleasant Valley to the northeast, LaGrange to the east, and the Town of Wappinger and Village of Wappingers Falls to the east and south.

Growth/Development Trends

The following table summarizes recent residential/commercial development since 2010 to present and any known or anticipated major residential/commercial development and major infrastructure development that has been identified in the next five years within the municipality. Refer to the map in Section 9.8.8 of this annex which illustrates the hazard areas along with the location of potential new development.

Table 9.17-1. Growth and Development

Property or Development Name	Type (e.g. Res., Comm.)	# of Units / Structures	Location (address and/or Parcel ID)	Known Hazard Zone(s)	Description/Status of Development
Recent Development from 2010 to present					
None identified					
Known or Anticipated Development in the Next Five (5) Years					
None identified					

* Only location-specific hazard zones or vulnerabilities identified.

9.17.3 Natural Hazard Event History Specific to the Municipality

Dutchess County has a history of natural and non-natural hazard events as detailed in Volume I, Section 5.0 of this plan. A summary of historical events is provided in each of the hazard profiles and includes a chronology of events that have affected the County and its municipalities. For the purpose of this Plan, events that have occurred in the County from 2008 to present were summarized to indicate the range and impact of hazard events in the community. Information regarding specific damages is included, if available, based on reference material or local sources. This information is presented in the table below. For details of these and additional events, refer to Volume I, Section 5.0 of this plan.



Table 9.17-2. Hazard Event History

Dates of Event	Event Type	FEMA Declaration # (If Applicable)	County Designated?	Summary of Damages/Losses
about 10-15 years ago	Severe Summer Storms – Downbursts	N/A	N/A	Many trees down in the Fairview and Red Oaks Mill areas.
August 26 – September 5, 2011	Hurricane Irene	DR-4020	Yes	Some flooding but in general Town does not have large scale flood vulnerability.
October 27 – November 9, 2012	Superstorm Sandy	DR-4085	Yes	Damage was not widespread...power outages and general tree debris.

9.17.4 Hazard Vulnerabilities and Ranking

The hazard profiles in Section 5.0 of this plan have detailed information regarding each plan participant's vulnerability to the identified hazards. The following summarizes the hazard vulnerabilities and their ranking in the Town of Poughkeepsie. For additional vulnerability information relevant to this jurisdiction, refer to Section 5.0.

Hazard Risk/Vulnerability Risk Ranking

The table below summarizes the hazard risk/vulnerability rankings of potential hazards for the Town of Poughkeepsie.

Table 9.17-3. Hazard Risk/Vulnerability Risk Ranking

Hazard type	Estimate of Potential Dollar Losses to Structures Vulnerable to the Hazard ^{a, c}	Probability of Occurrence	Risk Ranking Score (Probability x Impact)	Hazard Ranking ^b
Coastal Storm	100-year MRP: \$6,214,032.00 500-year MRP: 39439100 Annualized: \$486,618.00	Frequent	48	High
Drought	Damage estimate not available	Frequent	42	High
Earthquake	100-Year GBS: \$0 500-Year GBS: \$3,164,546 2,500-Year GBS: \$43,866,906	Occasional	32	High
Extreme Temperature	Damage estimate not available	Frequent	30	Medium
Flood	1% Annual Chance: \$752,752,577	Frequent	36	High
Severe Storm	100-Year MRP: \$6,214,032 500-year MRP: \$39,439,100 Annualized: \$486,618	Frequent	48	High
Winter Storm	1% GBS: \$90,776,345 5% GBS: \$453,881,727	Frequent	51	High
Wildfire	Estimated Value in the WUI: \$1,774,078,953	Frequent	27	Medium

Notes:

GBS = General building stock; MRP = Mean return period.

- The general building stock valuation is based on the custom inventory generated for the municipality and based on improved value.
- High = Total hazard priority risk ranking score of 31 and above



Medium = Total hazard priority risk ranking of 20-30+

Low = Total hazard risk ranking below 20

- c. Loss estimates for the severe storm and severe winter storm hazards are structural values only and do not include the estimated value of contents. The earthquake and hurricane wind hazards were evaluated by Census tract. The Census tracts do not exactly align with municipal boundaries; therefore, a total is reported for each Town inclusive of the Villages. Loss estimates for the flood and earthquake hazards represent both structure and contents. Potential flood loss estimates were generated using HAZUS-MH 2.2 and the 2011 FEMA DFIRM for the 1-percent annual chance event. For the wildfire hazard, the improved value and estimated contents of buildings located within the identified hazard zones is provided.

National Flood Insurance Program (NFIP) Summary

The following table summarizes the NFIP statistics for the Town of Poughkeepsie.

Table 9.17-4. NFIP Summary

Municipality	# Policies (1)	# Claims (Losses) (1)	Total Loss Payments (2)	# Rep. Loss Prop. (1)	# Severe Rep. Loss Prop. (1)	# Policies in 100- year Boundary (3)
Town of Poughkeepsie	260	33	\$951,155.02	1	1	174

Source: FEMA Region 2, 2014

(1) Policies, claims, repetitive loss and severe repetitive loss statistics provided by FEMA Region 2, and are current as of 12/31/2014. Please note the total number of repetitive loss properties includes the severe repetitive loss properties. The number of claims represents claims closed by 12/31/14.

(2) Total building and content losses from the claims file provided by FEMA Region 2.

(3) The policies inside and outside of the flood zones is based on the latitude and longitude provided by FEMA Region 2 in the policy file.

Notes: FEMA noted that where there is more than one entry for a property, there may be more than one policy in force or more than one GIS possibility.

A zero percentage denotes less than 1/100th percentage and not zero damages or vulnerability as may be the case.

Number of policies and claims and claims total exclude properties located outside County boundary, based on provided latitude and longitude

Critical Facilities

The table below presents HAZUS-MH estimates of the damage and loss of use to critical facilities in the community as a result of a 1- and 0.2-percent annual chance flood events.

Table 9.17-5. Potential Flood Losses to Critical Facilities

Name	Type	Exposure		Potential Loss from 1% Flood Event		
		1% Event	0.2% Event	Percent Structure Damage	Percent Content Damage	Days to 100-Percent(1)
Best Western Inn & Conference Center	Accommodation		X	-	-	-
DC DPW Outpost	DPW	X	X	17.2	81.6	-
NYS DOT	DPW	X	X	7.2	8.9	-
Poughkeepsie Seventh Day Adventist	School	X	X	8.5	49.1	480
Poughkeepsie Town Garage	DPW	X	X	18.3	84.4	-
Poughkeepsie Town PD	Police	X	X	0	0	480
Poughkeepsie Town Well	Well	X	X	-	-	-
Public Works - Engineering	Government	X	X	17.2	81.6	-
Public Works - Highway	Government	X	X	17.2	81.6	-
Stop - DWI	Government	X	X	15.2	100	-
Traffic Safety Board	Government	X	X	15.2	100	-

Source: Dutchess County, NYGIS

Note (1): HAZUS-MH 2.2 provides a general indication of the maximum restoration time for 100% operations. Clearly, a great deal of effort is needed to quickly restore essential facilities to full functionality; therefore this will be an indication of the maximum downtime (HAZUS-MH 2.1 User Manual).

Note (2): In some cases, a facility may be located in the DFIRM flood hazard boundary; however HAZUS did not calculate potential loss. This may be because the depth of flooding does not amount to any damages to the structure according to the depth damage function used in



X	HAZUS for that facility type. Further, HAZUS-MH may estimate potential damage to a facility that is outside the DFIRM because the model generated a depth grid beyond the DFIRM boundaries.
-	Facility located within the DFIRM boundary Not calculated by HAZUS-MH 2.2

Other Vulnerabilities Identified

The municipality has identified the following vulnerabilities within their community:

- While the Town has continuing program to upgrade stormwater management infrastructure and facilities, they note that existing facilities can handle up to about 1” rainfall/hour for first three hours after which some of their systems become overwhelmed.
- Stormwater Management problem areas that need upgrading:
 - Nassau Elementary School - Spackenkill Union Free School District: Parking lot flooding
 - Hampton Road, Veath Road, and Merrimac Road area: Ongoing work here, some 20 properties affected here, having easement issues to complete work.
- The following critical and essential facilities and infrastructure lack backup power:
 - Wilbur Boulevard Stormwater Pump Station – for the electrical pump located here
 - Country Club Wastewater Treatment Plant (WWTP) – however the Town is looking at decommissioning the plant within about one year
 - Town Hall
- The Hagantown, Spackenkill and Brooklyn Farms Road Pump Stations, located within NFIP floodplains, are currently the subject of flood-related issues cited by the NYS DEC.
- Public and private properties in the following areas are believed to be flood vulnerable:
 - Wilbur Boulevard near Laffin Lane - Flood vulnerable properties here may be appropriate for acquisition
 - Casperkill Drive (adjacent to Casperkill Creek) - may have received FEMA Individual Assistance (IA) funding for flood damage after Irene/Lee
 - Manufactured home park off Salt Point Road
 - Manufactured home park off Old Manchester Road/Rt. 55 (Wappingers Creek)
 - Hudson River waterfront, specifically the area of New Hamburg Yacht Club, White’s Marina and Marist University – flooded during Sandy storm surge
 - Sewer Plant along Hudson River in the City of Poughkeepsie (partially owned by the Town)
 - Former IBM office park area along Hudson River
- Land Failure – The area behind the Galleria Mall is vulnerable to land failure (slides) that impact Sheafe Road at the intersection of Old Post Road. Runoff from the mall parking lot is believed to be the cause of these problems.



9.17.5 Capability Assessment

This section identifies the following capabilities of the local jurisdiction:

- Planning and regulatory capability
- Administrative and technical capability
- Fiscal capability
- Community classification
- National Flood Insurance Program
- Integration of Mitigation Planning into Existing and Future Planning Mechanisms

Planning and Regulatory Capability

The table below summarizes the regulatory tools that are available to the Town of Poughkeepsie.

Table 9.17-6. Planning and Regulatory Tools

Tool / Program (code, ordinance, plan)	Do you have this? (Yes/No) If Yes, date of adoption or update	Authority (local, county, state, federal)	Dept. /Agency Responsible	Code Citation and Comments (Code Chapter, name of plan, explanation of authority, etc.)
Planning Capability				
Master Plan	Yes	Local	Planning Board	Town Plan, 2007
Capital Improvements Plan	No			
Floodplain Management / Basin Plan	No			
Stormwater Management Plan	No			
Open Space Plan	Yes	Local	Planning Board	Town Plan, 2007
Stream Corridor Management Plan	No			
Watershed Management or Protection Plan	No			
Economic Development Plan	No			
Comprehensive Emergency Management Plan	Yes	Local	Town Supervisor	2007
Emergency Response Plan	Yes	Local	Town Supervisor	CEMP (2007)
Post-Disaster Recovery Plan	No			
Transportation Plan	Yes	Local	Planning Board	Town Plan, 2007
Strategic Recovery Planning Report	No			
Other Plans:	Yes	Local	Town Board	Environmental Impact Statement, 2007 Local Waterfront Revitalization Program, 1999
Regulatory Capability				
Building Code	Yes	Local	Building Dept.	Chapter 68 – Building Construction
Zoning Ordinance	Yes	Local	Zoning Board	Chapter 210 - Zoning
Subdivision Ordinance	Yes	Local	Town Board	Chapter 177 – Subdivision of Land



Tool / Program (code, ordinance, plan)	Do you have this? (Yes/No) If Yes, date of adoption or update	Authority (local, county, state, federal)	Dept. /Agency Responsible	Code Citation and Comments (Code Chapter, name of plan, explanation of authority, etc.)
NFIP Flood Damage Prevention Ordinance	Yes	Local	Building Inspector	Chapter 113 – Flood Damage Prevention
NFIP: Cumulative Substantial Damages	No			
NFIP: Freeboard	No			
Growth Management Ordinances	No			
Site Plan Review Requirements	Yes	Local	Zoning Board	Chapter 210 - Zoning
Stormwater Management Ordinance	Yes	Local	Building Dept.	Chapter 173 – Stormwater Management
Municipal Separate Storm Sewer System (MS4)	Yes	Local		Chapter 173, Section 9 – Suspension of access to MS4
Natural Hazard Ordinance	No			
Post-Disaster Recovery Ordinance	No			
Real Estate Disclosure Requirement	No			
Other [Special Purpose Ordinances (i.e., sensitive areas, steep slope)]	Yes	Local	Town Departments	Chapter 97 – Erosion and Sediment Control Chapter 116 – Aquatic Resource Protection Chapter 146 – Open Space Preservation

Administrative and Technical Capability

The table below summarizes potential staff and personnel resources available to the Town of Poughkeepsie.

Table 9.17-7. Administrative and Technical Capabilities

Resources	Is this in place? (Yes or No)	Department/ Agency/Position
Administrative Capability		
Planning Board	Yes	Planning Board, Zoning Board
Mitigation Planning Committee	No	
Environmental Board/Commission	Yes	Conservation Advisory Committee
Open Space Board/Committee	No	
Economic Development Commission/Committee	No	
Maintenance Programs to Reduce Risk	No	
Mutual Aid Agreements	Yes	Surrounding municipalities
Technical/Staffing Capability		
Planner(s) or Engineer(s) with knowledge of land development and land management practices	Yes	Town Engineer
Engineer(s) or Professional(s) trained in construction practices related to buildings and/or infrastructure	Yes	Town Engineer
Planners or engineers with an understanding of natural hazards	Yes	Town Engineer
NFIP Floodplain Administrator	Yes	Building Inspector



Resources	Is this in place? (Yes or No)	Department/ Agency/Position
Surveyor(s)	No	
Personnel skilled or trained in GIS and/or HAZUS-MH applications	No	
Scientist familiar with natural hazards	No	
Emergency Manager	No	
Grant Writer(s)	No	
Staff with expertise or training in benefit/cost analysis	No	
Professionals trained in conducting damage assessments	No	

Fiscal Capability

The table below summarizes financial resources available to the Town of Poughkeepsie.

Table 9.17-8. Fiscal Capabilities

Financial Resources	Accessible or Eligible to Use (Yes/No)
Community development Block Grants (CDBG, CDBG-DR)	Yes
Capital Improvements Project Funding	Yes
Authority to Levy Taxes for specific purposes	No
User fees for water, sewer, gas or electric service	No
Impact Fees for homebuyers or developers of new development/homes	No
Stormwater Utility Fee	No
Incur debt through general obligation bonds	No
Incur debt through special tax bonds	No
Incur debt through private activity bonds	No
Withhold public expenditures in hazard-prone areas	No
Other Federal or State Funding Programs	Yes
Open Space Acquisition Funding Programs	No
Other	No

Community Classifications

The table below summarizes classifications for community program available to the Town of Poughkeepsie.

Table 9.17-9. Community Classifications

Program	Do you have this? (Yes/No)	Classification (if applicable)	Date Classified (if applicable)
Community Rating System (CRS)	No		
Building Code Effectiveness Grading Schedule (BCEGS)	No		
Public Protection (ISO Fire Protection Classes 1 to 10)	No		
Storm Ready	No		
Firewise	No		
Disaster/Safety Programs in/for Schools	No		
Organizations with Mitigation Focus (advocacy group, non-government)	No		
Public Education Program/Outreach (through website, social	Yes	Municipal	



Program	Do you have this? (Yes/No)	Classification (if applicable)	Date Classified (if applicable)
media)		website	
Public-Private Partnerships	No		

N/A = Not applicable. NP = Not participating. - = Unavailable. TBD = To be determined.

The classifications listed above relate to the community's ability to provide effective services to lessen its vulnerability to the hazards identified. These classifications can be viewed as a gauge of the community's capabilities in all phases of emergency management (preparedness, response, recovery and mitigation) and are used as an underwriting parameter for determining the costs of various forms of insurance. The CRS class applies to flood insurance while the BCEGS and Public Protection classifications apply to standard property insurance. CRS classifications range on a scale of 1 to 10 with class 1 being the best possible classification, and class 10 representing no classification benefit. Firewise classifications include a higher classification when the subject property is located beyond 1000 feet of a creditable fire hydrant and is within 5 road miles of a recognized Fire Station.

Criteria for classification credits are outlined in the following documents:

- The Community Rating System Coordinators Manual
- The Building Code Effectiveness Grading Schedule
- The ISO Mitigation online ISO's Public Protection website at <http://www.isomitigation.com/ppc/0000/ppc0001.html>
- The National Weather Service Storm Ready website at <http://www.weather.gov/stormready/howto.htm>
- The National Firewise Communities website at <http://firewise.org/>

National Flood Insurance Program

NFIP Floodplain Administrator (FPA)

Thomas Wiacek; Deputy Building Inspector

Flood Vulnerability Summary

Since 1978, 44 NFIP claims have been paid totaling \$ 951,155. As of 12/31/2014, there are 1 Repetitive Loss and 1 Severe Repetitive Loss properties in the community. The Town notes that many affected residents were provided IA funds directly by FEMA without advising the Town. Very few people came in for permits after Irene/Lee. The Town has not had to make Substantial Damage Estimates, but feels that they have this capability. The only private property currently working to mitigate their property is doing it at their own cost.

Resources

The FPA provides access to NFIP maps and information on implications of location in mapped floodplains, issues Floodplain Development Permits, maintains Elevation Certificates, maintains a record of all LOMAs.

The site plan review process, conducted by the Planning/Zoning Board, supports the floodplain management program. (Eric Holman, Town Planner)

No formal floodplain outreach, however the Town as an MS4 community has an outreach program for stormwater management.



The FPA feels he is adequately trained and attends continuing education on a regular basis as a building official (though their association).

The NFIP FPA continues to petition IT, who manages the municipal property database system to add “flags” for properties that intersect the NFIP floodplains.

Regulatory

NFIP FPA indicates that the last date on the FDPO is 1990.

Community Rating System

The Town of Poughkeepsie does not participate in the Community Rating System (CRS) program.

Integration of Hazard Mitigation into Existing and Future Planning Mechanisms

For a community to succeed in reducing long-term risk, hazard mitigation must be integrated into the day-to-day local government operations. As part of this planning effort, each community was surveyed to obtain a better understanding of their community’s progress in plan integration. A summary is provided below. In addition, the community identified specific integration activities that will be incorporated into municipal procedures.

Planning

Land Use Planning: The Town has a Planning Board and Zoning Board of Appeals which review all applications for development and consider natural hazard risk areas in their review. Many development activities require additional levels of environmental review, specifically NYS SEQRA and Federal NEPA requirements.

Poughkeepsie Town Plan 2007: The Town completed a Comprehensive Plan, which included the identification of natural hazard risk areas like floodplains, wetlands, and steep slopes, as well as land use and zoning recommendations for managing those risks. Some of the recommendations included the following:

1. The Town’s greenspace systems should be preserved in part by concentrating development in and around designated centers areas. Within the centers, greenway systems should be identified and landscape design standards used to link to the surrounding natural areas. Outside of the centers, zoning and design guidelines should be used to preserve contiguous areas of greenspace and reduce development densities. The Greenway Guides in Sections A and D of the Greenway Connections should be consulted during the development process. These guidelines outline strategies for preserving greenspace, water quality, and creating connections.
2. The Town should adopt measures to preserve the priority greenspace parcels that are specifically targeted for preservation on the Centers and Greenspace Plan, Lower density and conservation zoning techniques, clustering regulations, transfer or purchase of development rights, conservation easements, and other tools for preserving greenspace should be enacted for these areas, and the Town should consider ways to establish a funding mechanism to help preserve priority greenspaces. Allowing increased development densities within the Centers would off-set the potential effects of regulations that would preserve open space and limit development densities in the greenspace areas.
3. The Town should adopt regulations requiring that a clearly identified open space system that reflects the goals of the Poughkeepsie Town Plan be part of every major site plan or subdivision proposal. Whenever possible, this open space system should be linked to form continuous greenspace corridors. Natural corridors should be particularly encouraged along streambeds and wetlands to provide open space, wildlife habitat, and groundwater protection.



4. The Town should actively pursue, as a high priority, the establishment of a continuous Hudson River Greenway Trail which connects to Greenway Trails in the City of Poughkeepsie, the Town of Hyde Park and the Town of Wappinger for active and passive recreational use. The Town should work toward preserving and acquiring access to the Wappinger Creek, Casperkill Creek and Fallkill Creek corridors for public access whenever possible. Land along the creeks should be obtained through cooperative efforts with landowners, preservation groups, adjacent municipalities, and Dutchess County. As opportunities arise, land or easements along stream corridors should be acquired during the development process. Lands along both sides of these creeks should be made part of a greenbelt system, linking to larger open space areas.
5. The Town Board should adopt regulations to govern development on land with slopes of 20 percent or more, especially slopes in proximity to wetlands, waterbodies, and watercourses, in order to protect these areas whose soils are especially vulnerable to erosion and to minimize the disturbance of natural drainage patterns. This should include consideration of a tree preservation law to prevent the clear cutting of land and the resultant disruption of the local watershed.

The Master Plan also identified the following hazard/emergency response related issue:

1. Each of the three fire districts indicates there is a dire need for additional support. The number of volunteer firefighters is steadily decreasing and the funds are not available to hire additional career firefighters. Each district is handling its respective calls, but additional staff and volunteers would increase effectiveness and reduce time to respond to calls. There has been some discussion about possible mergers between the Fairview Fire District and the Arlington Fire District.

Conservation Planning: The Conservation Advisory Commission, composed of seven appointed members, was established as a volunteer organization to offer advisory opinions regarding environmental issues in the Town. Meetings are scheduled for the second Monday of the month, 6:00 pm, at the Engineer's Building, (white building next to Town Hall). Meetings are open to the public.

Regulatory and Enforcement

Flood Damage Prevention Chapter 113: It is the purpose of this chapter to promote the public health, safety, and general welfare and to minimize public and private losses due to flood conditions in specific areas by provisions designed to:

- A. Regulate uses which are dangerous to health, safety and property due to water or erosion hazards or which result in damaging increases in erosion or in flood heights or velocities;
- B. Require that uses vulnerable to floods, including facilities which serve such uses, be protected against flood damage at the time of initial construction;
- C. Control the alteration of natural floodplains, stream channels, and natural protective barriers which are involved in the accommodation of floodwaters;
- D. Control filling, grading, dredging and other development which may increase erosion or flood damages;
- E. Regulate the construction of flood barriers which will unnaturally divert floodwaters or which may increase flood hazards to other lands; and
- F. Qualify for and maintain participation in the National Flood Insurance Program.

Zoning Code Chapter 210: The Town of Poughkeepsie's zoning code includes districts and standards pertaining to the mitigation of hazards. These sections include the Floodplain regulations, stormwater management & erosion control standards.



Site Plan/Subdivision Review Chapter 177: The Town’s Planning Board is tasked with site plan/subdivision review. The Planning board pays special attention to ensure that developments mitigate the issues associated with flooding or steep slopes.

Building Code Chapter 68: The building codes are strictly enforced to make new and renovated buildings as prepared as possible for hazard related incidents. The chapter includes a provision to allow the building inspector to make emergency repairs to protect the health safety and welfare of the residents.

Fiscal

Operating Budget: The Town’s operating budget contains minimal provisions for expected repairs like snow removal and infrastructure repair after a storm or natural disaster.

Education and Outreach

The Town has a Comprehensive Emergency Management Plan available online with mitigation related information. The Planning Department is a member of the Dutchess County Planning Federation and attends trainings and researches best practices that other communities are implementing. DPW takes classes and implements in hazardous reduction techniques in various capital improvements. The Town has planned to budget for training for personal including professional development geared towards health and safety.

9.17.6 Mitigation Strategy and Prioritization

This section discusses past mitigations actions and status, describes proposed hazard mitigation initiatives, and prioritization.

Past Mitigation Initiative Status

The Town of Poughkeepsie has no prior mitigation strategy, however has performed the following mitigation projects:

- The Town has several portable generators to power sewer pump lift stations.
- The Arlington Wastewater Treatment Plant has backup power.

Proposed Hazard Mitigation Initiatives for the Plan

The Town of Poughkeepsie participated in a mitigation action workshop in May 2015 and was provided the following FEMA publications to use as a resource as part of their comprehensive review of all possible activities and mitigation measures to address their hazards: FEMA 551 ‘Selecting Appropriate Mitigation Measures for Floodprone Structures’ (March 2007) and FEMA ‘Mitigation Ideas – A Resource for Reducing Risk to Natural Hazards’ (January 2013).

Table 9.17-11 summarizes the comprehensive-range of specific mitigation initiatives the Town of Poughkeepsie would like to pursue in the future to reduce the effects of hazards. Some of these initiatives may be previous actions carried forward for this Plan. These initiatives are dependent upon available funding (grants and local match availability) and may be modified or omitted at any time based on the occurrence of new hazard events and changes in municipal priorities. Both the four FEMA mitigation action categories and the six CRS mitigation action categories are listed in the table below to further demonstrate the wide-range of activities and mitigation measures selected.

As discussed in Section 6, 14 evaluation/prioritization criteria are used to complete the prioritization of mitigation initiatives. For each new mitigation action, a numeric rank is assigned (-1, 0, or 1) for each of the



14 evaluation criteria to assist with prioritizing your actions as ‘High’, ‘Medium’, or ‘Low.’ The table below summarizes the evaluation of each mitigation initiative, listed by Action Number.

Table 9.17-12 provides a summary of the prioritization of all proposed mitigation initiatives for the Plan.



Table 9.17-10. Proposed Hazard Mitigation Initiatives

Initiative	Mitigation Initiative	Applies to New and/or Existing Structures*	Hazard(s) Mitigated	Goals Met	Lead and Support Agencies	Estimated Benefits	Estimated Cost	Sources of Funding	Timeline	Priority	Mitigation Category	CRS Category
T. Pough-1	Address the NYS DEC and flood vulnerability issues at the following wastewater pump stations: <ul style="list-style-type: none"> Hagantown Spackenkill Brooklyn Farms Road Pump Stations. 											
	See above	Existing	Coastal Storm, Flood, Severe Storm	1, 2	Town Water and Sewer, NYSDEC	High	High	Grant Funding with Local Cost Share	Short Term / DOF	Medium	SIP	PP
T. Pough-2	Address stormwater management flooding problems and assure any mitigation addresses the 500-year flood event or "worst damage scenario" in the following areas: <ul style="list-style-type: none"> Nassau Elementary School - Spackenkill Union Free School District: Parking lot flooding. Hampton Road, Veath Road, and Merrimac Road area: Ongoing work here, some 20 properties affected here, having easement issues to complete work. 											
	See above	Existing	Coastal Storm, Flood, Severe Storm	1, 2	Board of Education, Town Highway	High	High	Grant Funding with Local Cost Share	Short Term / DOF	High	SIP	PP
T. Pough-3	Install permanent backup power at the following critical and essential facilities and infrastructure: <ul style="list-style-type: none"> Wilbur Boulevard Stormwater Pump Station – for the electrical pump located here Country Club Wastewater Treatment Plant (WWTP) – however the Town is looking at decommissioning the plant within about one year Town Hall 											
	See above	Existing	All Hazards	1, 2, 5	Engineering, Supervisor, Town Board	High	Medium to High	Grant Funding with Local Cost Share	Short Term / DOF	High	SIP	PP
T. Pough-4	Promote and support non-structural flood hazard mitigation alternatives for at risk properties within the floodplain, including those that have been identified as Repetitive Loss (RL – 1 currently) and Severe Repetitive Loss (SRL – 1 currently), such as acquisition/relocation or elevation depending on feasibility. The parameters for this initiative would be: funding, benefits versus cost, and willing participation of property owners. Specifically identified are properties in the following locations: <ul style="list-style-type: none"> Titus Road Extension (one property owner here has been working to elevate their structure) Wilbur Boulevard near Laffin Lane - Flood vulnerable properties here may be appropriate for acquisition Casperkill Drive (adjacent to Casperkill Creek) - may have received FEMA Individual Assistance (IA) funding for flood damage after Irene/Lee Manufactured home park off Salt Point Road Manufactured home park off Old Manchester Road/Rt. 55 (Wappingers Creek) Hudson River waterfront, specifically the area of New Hamburg Yacht Club, White's Marina and Marist University – flooded during Sandy storm surge Sewer Plant along Hudson River in the City of Poughkeepsie (partially owned by the Town) Former IBM office park area along Hudson River 											
	See above.	Existing	Flooding,	G-2, G-3	Municipal	High -	High	FEMA or	Long-term	High	SIP,	PP,



Table 9.17-10. Proposed Hazard Mitigation Initiatives

Initiative	Mitigation Initiative	Applies to New and/or Existing Structures*	Hazard(s) Mitigated	Goals Met	Lead and Support Agencies	Estimated Benefits	Estimated Cost	Sources of Funding	Timeline	Priority	Mitigation Category	CRS Category
			Severe Storm		NFIP FPA; support from NYS DHSES and FEMA	Reduced or eliminated risk to property damage from flooding		other mitigation grant funding, NFIP flood insurance and ICC; property owner for local match.	DOF		EAP	PI
T. Pough-5	Address ongoing land failure (slides) in the area behind the Galleria Mall that impact Sheafe Road at the intersection of Old Post Road. Runoff from the mall parking lot is believed to be the cause of these problems.											
	See above	Existing	Coastal Storm, Flood, Severe Storm	1, 2	Town Highway and Engineer	Medium to High	Medium to High	Grant Funding, Municipal Budget	Short Term / DOF	Medium	SIP, NSP	PP, NR
T. Pough-6	Continue to petition the Town's I.T. who manages the municipal property database system to add "flags" for properties that intersect the NFIP floodplains.											
	See above	N/A	Flood	1, 2, 5	Town IT	Medium	Low	Municipal Budget	Ongoing	Medium	SIP	PI, PP

Notes:

Not all acronyms and abbreviations defined below are included in the table.

*Does this mitigation initiative reduce the effects of hazards on new and/or existing buildings and/or infrastructure? Not applicable (N/A) is inserted if this does not apply.

Acronyms and Abbreviations:

CAV	Community Assistance Visit
CRS	Community Rating System
DPW	Department of Public Works
FEMA	Federal Emergency Management Agency
FPA	Floodplain Administrator
HMA	Hazard Mitigation Assistance
N/A	Not applicable
NFIP	National Flood Insurance Program
OEM	Office of Emergency Management

Potential FEMA HMA Funding Sources:

FMA	Flood Mitigation Assistance Grant Program
HMGP	Hazard Mitigation Grant Program
PDM	Pre-Disaster Mitigation Grant Program
RFC	Repetitive Flood Claims Grant Program (discontinued)
SRL	Severe Repetitive Loss Grant Program (discontinued)

Timeline:

Short	1 to 5 years
Long Term	5 years or greater
OG	On-going program
DOF	Depending on funding

Costs:

Where actual project costs have been reasonably estimated:

Low < \$10,000

Benefits:

Where possible, an estimate of project benefits (per FEMA's benefit calculation methodology) has been evaluated against the project costs, and is presented as:





Costs:

Medium \$10,000 to \$100,000
High > \$100,000

Where actual project costs cannot reasonably be established at this time:

Low Possible to fund under existing budget. Project is part of, or can be part of an existing on-going program.
Medium Could budget for under existing work plan, but would require a reapportionment of the budget or a budget amendment, or the cost of the project would have to be spread over multiple years.
High Would require an increase in revenue via an alternative source (i.e., bonds, grants, fee increases) to implement. Existing funding levels are not adequate to cover the costs of the proposed project.

Benefits:

Low= < \$10,000
Medium \$10,000 to \$100,000
High > \$100,000

Where numerical project benefits cannot reasonably be established at this time:

Low Long-term benefits of the project are difficult to quantify in the short term.
Medium Project will have a long-term impact on the reduction of risk exposure to life and property, or project will provide an immediate reduction in the risk exposure to property.
High Project will have an immediate impact on the reduction of risk exposure to life and property.

Mitigation Category:

- Local Plans and Regulations (LPR) – These actions include government authorities, policies or codes that influence the way land and buildings are being developed and built.
- Structure and Infrastructure Project (SIP) - These actions involve modifying existing structures and infrastructure to protect them from a hazard or remove them from a hazard area. This could apply to public or private structures as well as critical facilities and infrastructure. This type of action also involves projects to construct manmade structures to reduce the impact of hazards.
- Natural Systems Protection (NSP) – These are actions that minimize damage and losses, and also preserve or restore the functions of natural systems.
- Education and Awareness Programs (EAP) – These are actions to inform and educate citizens, elected officials, and property owners about hazards and potential ways to mitigate them. These actions may also include participation in national programs, such as StormReady and Firewise Communities

CRS Category:

- Preventative Measures (PR) - Government, administrative or regulatory actions, or processes that influence the way land and buildings are developed and built. Examples include planning and zoning, floodplain local laws, capital improvement programs, open space preservation, and storm water management regulations.
- Property Protection (PP) - These actions include public activities to reduce hazard losses or actions that involve (1) modification of existing buildings or structures to protect them from a hazard or (2) removal of the structures from the hazard area. Examples include acquisition, elevation, relocation, structural retrofits, storm shutters, and shatter-resistant glass.
- Public Information (PI) - Actions to inform and educate citizens, elected officials, and property owners about hazards and potential ways to mitigate them. Such actions include outreach projects, real estate disclosure, hazard information centers, and educational programs for school-age children and adults.
- Natural Resource Protection (NR) - Actions that minimize hazard loss and also preserve or restore the functions of natural systems. These actions include sediment and erosion control, stream corridor restoration, watershed management, forest and vegetation management, and wetland restoration and preservation.
- Structural Flood Control Projects (SP) - Actions that involve the construction of structures to reduce the impact of a hazard. Such structures include dams, setback levees, floodwalls, retaining walls, and safe rooms.
- Emergency Services (ES) - Actions that protect people and property during and immediately following a disaster or hazard event. Services include warning systems, emergency response services, and the protection of essential facilities



Table 9.17-11. Summary of Prioritization of Actions

Mitigation Action / Project Number	Mitigation Action/Initiative	Life Safety	Property Protection	Cost-Effectiveness	Technical	Political	Legal	Fiscal	Environmental	Social	Administrative	Multi-Hazard	Timeline	Agency Champion	Other Community Objectives	Total	High / Medium / Low
T. Pough-1	Address the NYS DEC and flood vulnerability issues at the following wastewater pump stations.	0	1	1	0	0	0	0	1	0	1	1	0	1	0	6	Medium
T. Pough-2	Address stormwater management flooding problems.	1	1	1	0	1	0	0	1	1	1	1	0	1	0	9	High
T. Pough-3	Install permanent backup power at critical and essential facilities and infrastructure	1	1	1	0	1	0	0	1	1	1	1	0	1	0	9	High
T. Pough-4	Promote and support non-structural flood hazard mitigation alternatives for at risk properties within the floodplain	1	1	1	1	0	0	0	0	1	1	1	1	1	0	9	High
T. Pough-5	Address ongoing land failure (slides) in the area behind the Galleria Mall that impact Sheafe Road at the intersection of Old Post Road.	1	1	1	1	0	0	1	1	0	0	1	0	0	0	7	Medium
T. Pough-6	Continue to petition the Town's IT, who manages the municipal property database system to add "flags" for properties that intersect the NFIP floodplains.	0	1	1	1	0	0	1	0	0	0	1	0	0	0	6	Medium

Note: Refer to Section 6 which contains the guidance on conducting the prioritization of mitigation actions.



9.17.7 Future Needs To Better Understand Risk/Vulnerability

None at this time.

9.17.8 Hazard Area Extent and Location

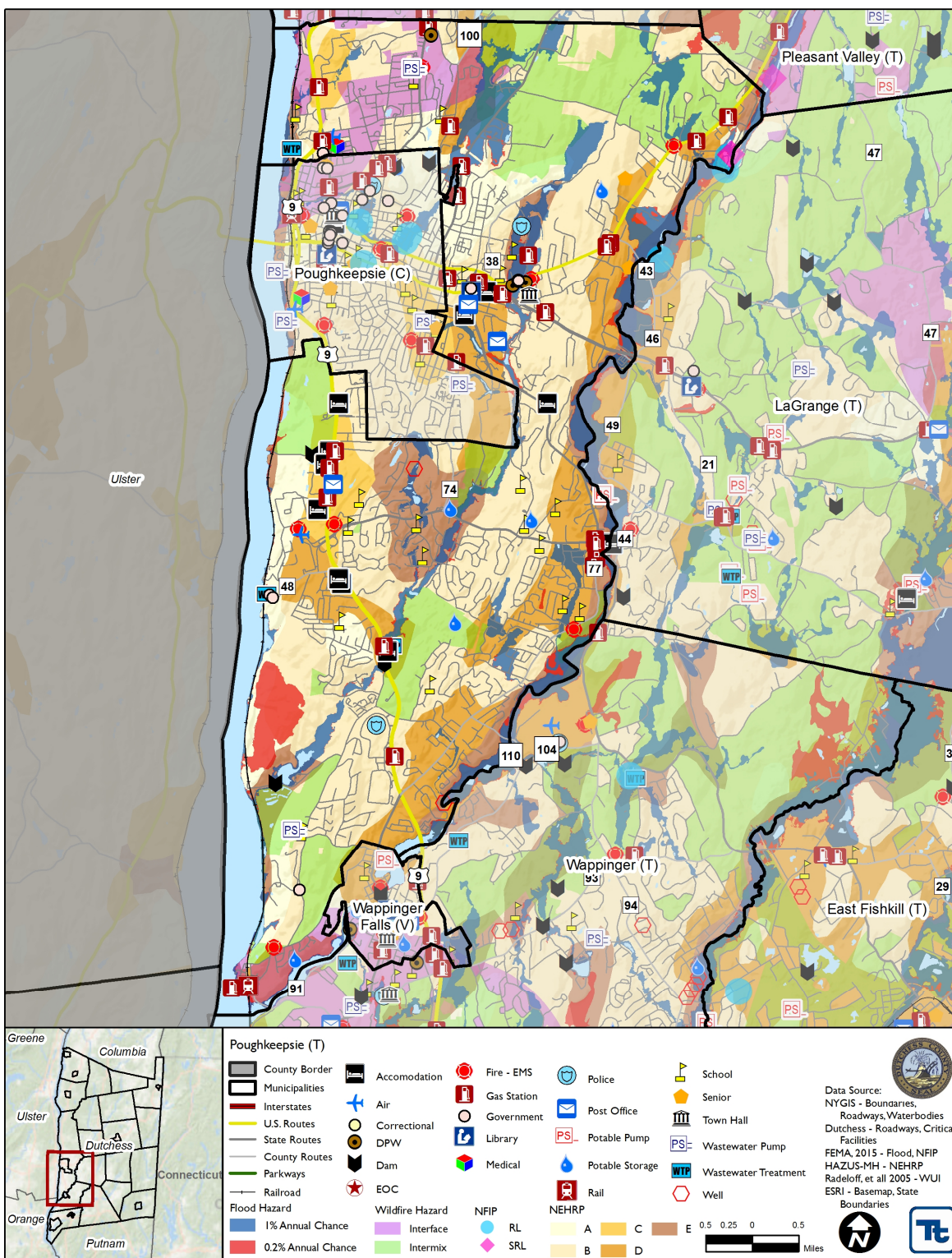
Hazard area extent and location maps have been generated for the Town of Poughkeepsie that illustrate the probable areas impacted within the municipality. These maps are based on the best available data at the time of the preparation of this plan, and are considered to be adequate for planning purposes. Maps have only been generated for those hazards that can be clearly identified using mapping techniques and technologies, and for which the Town of Poughkeepsie has significant exposure. These maps are illustrated in the hazard profiles within Section 5.4, Volume I of this Plan.

9.17.9 Additional Comments

None at this time.



Figure 9.17-1. Town of Poughkeepsie Hazard Area Extent and Location Map



**Action Number:**

T. Pough-1

Mitigation Action/Initiative:

Address the NYS DEC and flood vulnerability issues at wastewater pump stations in the Town

Assessing the Risk	
Hazard(s) addressed:	Coastal Storm, Flood, Severe Storm
Specific problem being mitigated:	Flooding in the areas of Hagantown, Spackenkill, and Brooklyn Farms Road Pump Stations
Evaluation of Potential Actions/Projects	
Actions/Projects Considered (name of project and reason for not selecting):	1. Address the NYS DEC and flood vulnerability issues in the Town
	2. Do nothing (problem continues to exist or to worsen).
	3. No other feasible options were identified
Action/Project Intended for Implementation	
Description of Selected Action/Project	Address the NYS DEC and flood vulnerability issues at the following wastewater pump stations: <ul style="list-style-type: none">• Hagantown• Spackenkill• Brooklyn Farms Road Pump Stations.
Action/Project Category	SIP
Goals Met	1, 2
Applies to existing and or new development, or not applicable	Existing
Benefits (losses avoided)	High
Estimated Cost	High
Priority*	Medium
Plan for Implementation	
Responsible Organization	Town Water and Sewer, NYSDEC
Local Planning Mechanism	Stormwater Management
Potential Funding Sources	Grant Funding with Local Cost Share
Timeline for Completion	Short Term / DOF
Reporting on Progress	
Date of Status Report/ Report of Progress	Date: Progress on Action/Project:



Action Number:

T. Pough-1

Mitigation Action/Initiative:

Address the NYS DEC and flood vulnerability issues at wastewater pump stations in the Town

Criteria	Numeric Rank (-1, 0, 1)	Provide brief rationale for numeric rank when appropriate
Life Safety	0	
Property Protection	1	
Cost-Effectiveness	1	
Technical	0	
Political	0	
Legal	0	
Fiscal	0	
Environmental	1	
Social	0	
Administrative	1	
Multi-Hazard	1	
Timeline	0	
Agency Champion	1	
Other Community Objectives	0	
Total	6	
Priority (High/Med/Low)	Medium	



Action Number:

T. Pough-2

Mitigation Action/Initiative:

Address stormwater management flooding problems in the Town

Assessing the Risk	
Hazard(s) addressed:	Coastal Storm, Flood, Severe Storm
Specific problem being mitigated:	Stormwater flooding in various parts of the Town
Evaluation of Potential Actions/Projects	
Actions/Projects Considered (name of project and reason for not selecting):	1. Address stormwater flooding in the parking lot of Nassau Elementary School, Hampton Road, Veath Road and Merrimac Road
	2. Do nothing (problem continues to exist or to worsen).
	3. No other feasible options were identified
Action/Project Intended for Implementation	
Description of Selected Action/Project	Address stormwater management flooding problems in the following areas: <ul style="list-style-type: none"> Nassau Elementary School - Spackenkill Union Free School District: Parking lot flooding. Hampton Road, Veath Road, and Merrimac Road area: Ongoing work here, some 20 properties affected here, having easement issues to complete work.
Action/Project Category	SIP
Goals Met	1, 2
Applies to existing and or new development, or not applicable	Existing
Benefits (losses avoided)	High
Estimated Cost	High
Priority*	High
Plan for Implementation	
Responsible Organization	Board of Education, Town Highway
Local Planning Mechanism	Stormwater Management
Potential Funding Sources	Grant Funding with local cost share
Timeline for Completion	Short Term / DOF
Reporting on Progress	
Date of Status Report/ Report of Progress	Date: Progress on Action/Project:



Action Number:

T. Pough-2

Mitigation Action/Initiative:

Address stormwater management flooding problems in the Town

Criteria	Numeric Rank (-1, 0, 1)	Provide brief rationale for numeric rank when appropriate
Life Safety	1	
Property Protection	1	
Cost-Effectiveness	1	
Technical	0	
Political	1	
Legal	0	
Fiscal	0	
Environmental	1	
Social	1	
Administrative	1	
Multi-Hazard	1	
Timeline	0	
Agency Champion	1	
Other Community Objectives	0	
Total	9	
Priority (High/Med/Low)	High	



Action Number:

T. Pough-3

Mitigation Action/Initiative:

Backup generators at critical facilities

Assessing the Risk	
Hazard(s) addressed:	All hazards
Specific problem being mitigated:	Loss of power to critical facilities in the Town prevent them from functioning properly during power outages.
Evaluation of Potential Actions/Projects	
Actions/Projects Considered (name of project and reason for not selecting):	1. Install backup power at critical and essential facilities/infrastructure in the Town
	2. Do nothing (problem continues to exist or to worsen).
	3. No other feasible options were identified
Action/Project Intended for Implementation	
Description of Selected Action/Project	Install permanent backup power at the following critical and essential facilities and infrastructure: <ul style="list-style-type: none">• Wilbur Boulevard Stormwater Pump Station – for the electrical pump located here• Country Club Wastewater Treatment Plant (WWTP) – however the Town is looking at decommissioning the plant within about one year• Town Hall
Action/Project Category	SIP
Goals Met	1, 2, 5
Applies to existing and or new development, or not applicable	Existing
Benefits (losses avoided)	High
Estimated Cost	Medium to High
Priority*	High
Plan for Implementation	
Responsible Organization	Engineering, Supervisor, Town Board
Local Planning Mechanism	Emergency Management
Potential Funding Sources	Grant funding with local cost share
Timeline for Completion	Short Term / DOF
Reporting on Progress	
Date of Status Report/ Report of Progress	Date: Progress on Action/Project:



Action Number:

T. Pough-3

Mitigation Action/Initiative:

Backup generators at critical facilities

Criteria	Numeric Rank (-1, 0, 1)	Provide brief rationale for numeric rank when appropriate
Life Safety	1	
Property Protection	1	
Cost-Effectiveness	1	
Technical	0	
Political	1	
Legal	0	
Fiscal	0	
Environmental	1	
Social	1	
Administrative	1	
Multi-Hazard	1	
Timeline	0	
Agency Champion	1	
Other Community Objectives	0	
Total	9	
Priority (High/Med/Low)	High	

**Action Number:** T. Pough-5**Mitigation Action/Initiative:** Address ongoing land failure (slides) in the area behind the Galleria Mall

Assessing the Risk	
Hazard(s) addressed:	Coastal Storm, Flood, Severe Storm
Specific problem being mitigated:	Runoff from the mall parking lot is believed to impact Sheafe Road at the intersection of Old Post Road; landslides occur in this area
Evaluation of Potential Actions/Projects	
Actions/Projects Considered (name of project and reason for not selecting):	1. Address ongoing land failure (slides) in the area behind the Galleria Mall that impact Sheafe Road at the intersection of Old Post Road.
	2. Do nothing (problem continues to exist or to worsen).
	3. No other feasible options were identified
Action/Project Intended for Implementation	
Description of Selected Action/Project	Address ongoing land failure (slides) in the area behind the Galleria Mall that impact Sheafe Road at the intersection of Old Post Road. Runoff from the mall parking lot is believed to be the cause of these problems.
Action/Project Category	SIP, NSP
Goals Met	1, 2
Applies to existing and or new development, or not applicable	Existing
Benefits (losses avoided)	Medium to High
Estimated Cost	Medium to High
Priority*	Medium
Plan for Implementation	
Responsible Organization	Town Highway and Engineer
Local Planning Mechanism	TBD
Potential Funding Sources	Grant Funding, Municipal Budget
Timeline for Completion	Short Term / DOF
Reporting on Progress	
Date of Status Report/ Report of Progress	Date: Progress on Action/Project:



Action Number:

T. Pough-5

Mitigation Action/Initiative:

Address ongoing land failure (slides) in the area behind the Galleria Mall

Criteria	Numeric Rank (-1, 0, 1)	Provide brief rationale for numeric rank when appropriate
Life Safety	1	
Property Protection	1	
Cost-Effectiveness	1	
Technical	1	
Political	0	
Legal	0	
Fiscal	1	
Environmental	1	
Social	0	
Administrative	0	
Multi-Hazard	1	
Timeline	0	
Agency Champion	0	
Other Community Objectives	0	
Total	7	
Priority (High/Med/Low)	Medium	